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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,160	12/29/2000	Merle L. Miller	2069.008400	8960

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EXAMINER	
JAMAL, ALEXANDER	
ART UNIT	PAPER NUMBER
2614	
MAIL DATE	DELIVERY MODE
05/16/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/752,160	MILLER ET AL.	
	Examiner	Art Unit	
	ALEXANDER JAMAL	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 February 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18.20-25* is/are pending in the application.

4a) Of the above claim(s) *1-4,16-18,24 and 25* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5-15,20-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Based upon the submitted amendment, the examiner notes that claims 5,9,12,20,23 have been amended and claims 1-4,16-18,24,25 are withdrawn, and claim 19 is cancelled.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:
A person shall be entitled to a patent unless -
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 5-15, 12-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Zhou [US 5,926,544].
Regarding claim 12, Zhou discloses an apparatus (300), as shown in Fig. 3, comprising:
a digital signal processor (DSP) (304) for [Figs. 3, 6-7, 9; col. 3, lines 16-32];
determining if the line card (308) [Figs. 3, 5, 8] is operating in a current limit region of a DC feed curve (408) [Figs. 4, 9; col. 12, line 19 to col. 14, line 12]; and
determining a subscriber loop (302) voltage based on a synthesized curve in the current limit region (410) [Figs. 3-4, 9; col. 4, line 64 to col. 6, line28; col. 13, lines 18-50]; and
a circuitry [col. 18, lines 27-46] for applying the loop voltage to the subscriber line [Figs. 3-4; col. 5, lines 27-46; col. 12, lines 19-38].

Claims 5, 20 and 23 are essentially similar to claim 12 and are rejected for the reasons stated above.
Claim 9 is essentially similar to claim 12 except for generating a current value proportional to a loop current flowing from a subscriber line. Zhou discloses generating a current value proportional (i.e. piece-wise- linear) to a loop current flowing from the subscriber line [Figs. 3-4; col. 5, lines 27 - 46].
Regarding claim 13, Zhou further discloses the apparatus (300), wherein the digital signal processor for determining if the line card is operating in the current limit region includes the digital signal processor for:
generating a current value proportional (i.e. piece-wise-linear) to a loop current flowing from the subscriber line [Figs. 3-4; col. 5, lines 27 - 46]; and
determining if the line card is operating in the current limit region (410) of the DC feed curve in response to generating the current value [Figs. 3-4; col. 5, line 47 to col. 6, line 28].

Claim 6 is essentially similar to claim 13 and is rejected for the reasons stated above.
Regarding claim 14, Zhou further discloses the apparatus (300), wherein the synthesized curve is based on an anti-saturation region and the current limit region of the DC feed curve (408) [Figs. 3-4; col. 5, lines 47-65].
Regarding claim 15, Zhou further discloses the apparatus (300), wherein the digital signal processor (304) is further for determining the loop voltage in at least one of an anti-saturation region and a

resistance feed region in response to determining the line card is not operating in the current limit region [Figs. 3-4; col. 5, lines 27-46; col. 12, lines 19-38; col. 18, lines 45-58].
Claim 21 is essentially similar to claim 15 and is rejected for the reasons stated above.

Regarding claim 7, Zhou discloses a method, wherein determining if the line card is operating in the current limit region of the DC feed curve in response to generating the current value includes determining if the loop current is greater than a first preselected value [Figs 4, 9; col. 12, line 19 to col. 14, line 12].
Regarding claims 8, 10-11, the limitations are shown above.
Regarding claim 22, Zhou discloses the line card, wherein the subscriber line interface circuit is a voltage-feed subscriber line interface circuit (301) [Fig, 3; col. 5, lines 12-26].

Response to Arguments

1. Applicant's arguments have been fully considered but they are not persuasive.

As per applicant's arguments that Zhou dopes not teach synthesizing a curve in the current limit region, the examiner disagrees. The examiner notes that Zhou discloses programmable filter circuitry that functions to reduce the transient currents (driving the DC feed into a current limit region) produced when rapidly changing impedances (such as an on/offhook transition) occur on the subscriber loop (Col 11 lines 20 and 65). This is the **same** problem being solved by applicant. That variable low pass filtering will 'synthesize' the current limit region and allow on/offhook transients to be reduced. Zhou's solution to current transients with a digitally programmable filter will 'synthesize' a current limit characteristic in the **same** manner as applicant's claimed device.

2. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 571-272-7498. The examiner can normally be reached on M-F 9AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 571-272-7499. The fax phone numbers for the organization where this application or proceeding is assigned are **571-273-8300** for regular communications and **571-273-8300** for After Final communications.

/Alexander Jamal/

Primary Examiner, Art Unit 2614

Examiner Alexander Jamal

May 17, 2008